DOCUMENT RESUME

ED 218 838 EC 142 798

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TITLE Self Perceptions, Achievement Related Behaviors and Social Interactions of Learning Disabled Children.
PUB DATE Mar 82
NOTE 22p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York, NY, March 19-23, 1982).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; Behavior Patterns; Elementary Secondary Education; *Interaction; *Interpersonal Competence; *Learning Disabilities; *Mainstreaming; *Self Concept

ABSTRACT

The authors discuss how learning disabled (LD) children's beliefs about themselves may be affected by mainstreaming and how those beliefs may influence their social and achievement related behaviors. Using LD and nonLD elementary and junior high school students, a series of studies examined group differences on a variety of self report and behavioral measures (e.g., attributions, responses to success and failure, social desirability, and conformity). The pattern emerging from these studies suggests that LD children devalue their own performance; respond to academic challenges by disengaging themselves; and respond to interpersonal interactions with what appears to be a deferential, submissive stance. While results are seen to suggest that LD students are prime candidates for attribution retraining, the pitfalls of such training are pointed out. The possible benefits of cooperative goal structures and the modeling process are cited. (Author/SB)

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SELF PERCEPTIONS, ACHIEVEMENT RELATED BEHAVIORS AND SOCIAL INTERACTIONS OF LEARNING DISABLED CHILDREN

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Paper presented at the
CONFERENCE OF THE AMERICAN EDUCATIONAL RESEARCH ASSOCIATION
New York - March, 1982

The definition of learning disabilities has been, and continues to be, a source of controversy and frustration among educators, parents and legislators. Although more than 1.3 million children have been labeled learning disabled in 1981, an increase of 20 percent each year since 1975, there has been no consensus on the definition. One reason the definition remains elusive has been the narrow perspective of childhood deviance which has dominated the field of learning disabilities. By and large, efforts to characterize the learning disabled have been focused on cognitive processes (i.e., attention, perception) or academic retardation at the expense of social interpersonal factors. Disregarded as factors which might account for, or contribute to, the child's failure to learn are motivational and personality states and the impact of significant others on the learning disabled. There is now considerable evidence, however, that motivational and social problems play a significant role in the life of the learning disabled. Whether the social difficulties of the learning disabled influence the identification and diagnosis of the child as learning disabled, or represent the outcome of the experience of school failure, is not known. Nonetheless the data demonstrate very clearly that any model of learning disabilities must incorporate social/emotional factors.

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During the past five years, with funding from the U.S. Office of Special Education, we have conducted a series of studies designed to isolate personality and social variables which might be contributiong to the mainstreamed learning disabled child's school failure. These studies, now summarized, have examined:

a. learning disabled children's attributions about the causes of their successes and failures;

b. their behavioral responses to the experience of success and failure; and

c. interventions to accomodate or to change the learning disabled children's attributions and achievement-related behaviors.

LEARNING DISABLED CHILDREN'S ATTRIBUTIONS

There is considerable evidence that individuals who have high self concepts of ability and who attribute success to ability and failure to a lack of effort are more likely to choose achievement activities, more difficult tasks and be more persistent when tasks are difficult (Kukla, 1972; 1978). In contrast children who attribute success to effort or luck and failure to a lack of ability expect to fail on future tasks (Nicholls, 1976) and show lack of persistence or "learned helplessness" when confronted with difficult tasks, even when success is within their capabilities (Dweck and Reppucci, 1973). We asked whether the negative self concepts found in learning disabled children (Black, 1974) and the "strategy production deficits" of the learning disabled described in the information processing literature (Torgesen and Goldman, 1977; Wong, 1980) might reflect "learned helpless" attributions made by the learning disabled. To determine whether learning disabled children's beliefs about the

causes of success and failure would differentiate them from normally achieving youngsters, and indicate that the learning disabled hold maladaptive attributions, a series of studies was conducted.

Across these studies, subjects included children from second through eighth grades from several school districts and college students. The students were defined as learning disabled, or not, according to varying definitions of learning disabilities. Attributions were measured through well known assessment devices, experimenter constructed techniques, structured interviews, and experiments.

In the first study (Pearl, Bryan and Donahue, 1980) the Intellectual Achievement Responsibility Scale (IAR, Crandall, Katkovsky and Crandall, 1965) was administered to third through eighth grade parochial school students. The learning disabled and nondisabled were classified on the basis of teacher ratings, intelligence quotients and reading test scores in accordance with federal guidelines for defining learning disabilities (Federal Register, 1977). The IAR is a questionnaire which presents a series of achievement outcomes and a pair of possible causes (one internal, one external). The child indicates which causal factor would be more responsible for each outcome. Two scores, one indicating perceptions of control for positive outcomes and the second for negative outcomes, were analyzed. The results indicated that learning disabled and nondisabled students differed in their perceptions of control over positive outcomes. The learning disabled were more external in comparison to the nondisabled on this scale. There were no group differences for perceptions of control over negative outcomes. Thus, while the learning disabled and nondisabled accept about the same degree of responsibility for negative events, the learning disabled perceive themselves to have less control over success.

The IAR is limited in that it does not distinguish between perceptions of causes for different situations (e.g., academic versus social outcomes). Since perceptions of causality may not be consistent across tasks we were concerned with the generality of learning disabled children's attributions. Second, the IAR does not distinguish between effort versus ability nor luck versus task difficulty. Since distinctions within internal attributions have been related to achievement motivation, the specific roles children perceive to be played by ability, effort, task difficulty and luck were of interest.

Thus, in the second study we examined children's perceptions of the importance of effort, ability, task difficulty and luck for academic, social and neutral domains with successful and unsuccessful outcomes. First through eighth grade parochial school children were classified as learning disabled and nondisabled using the same criteria as in the first study. Using a structured interview format (Bugental, Whalen and Henker, 1977) children indicated on a four point scale how important the factors of ability, effort, task difficulty and luck were to their success and failure in reading, doing puzzles and getting along with others. Separate analyses of variance for each attribution were computed for group, grade and sex with domain and type of outcome as repeated factors.

The results for Effort indicated that nondisabled children believed that not trying hard enough was a greater cause of their failure than did the learning disabled, while no group differences resulted in ratings of the importance of effort when successful.

On Task Difficulty, the learning disabled were more likely to believe that their successes occurred because tasks were easy than that their failures

occurred because tasks were hard; the nondisabled rated Task Difficulty of equal importance for success and failure. In addition, the nondisabled perceived task difficulty of greater importance in social interactions than the other domains while the learning disabled rated task difficulty of equal importance across domains.

These results suggested that the learning disabled, in comparison to their classmates, are less likely to believe they can influence outcomes through effort, and that these perceptions about the causes of failure apply to areas other than the academic domain of reading. In addition they believe that if they do well it's because tasks are easy but do not blame task difficulty for causing their failures. They appear to be rather pessimistic about their ability to influence outcomes and may feel dependent on the good will of others to give them easy tasks.

Thus far these studies examined children's attributions for those factors typically examined in attribution research. We were concerned that differences in children's ideas may be obscured in limiting their responses to the four factors of ability, effort, luck and task difficulty.

Therefore, using a structured interview format (Dunn, Pearl and Bryan, in preparation) the second through sixth grade parochial school students were questioned about what they are good at in school, and why, and what things are hard in school and why. The attributions made by children for their strengths found that the older learning disabled subjects emphasized liking the subject or the teacher as important factors, and attributed weaknesses to a lack of facilitating behaviors like paying attention or following directions. Nondisabled students were more likely to attribute strengths to ability than the learning disabled.

The results suggested that the learning disabled are more external in their attributions for success, perceiving liking the teacher and the subjects as important factors. In addition, the learning disabled do perceive themselves as having greater difficulties in those cognitive processes necessary for academic achievement. The responses of these parochial school learning disabled tended to agree with others' characterization of them as having problems in attention and perception, at least as these relate to classroom activities.

Social Comparisons -- We next directly asked whether the learning disabled children perceive themselves as less skilled than their classmates in these and other areas said to be problems for learning disabled children. Second through eighth grade learning disabled and nondisabled students were administered a series of questions in which they rated themselves in comparison to classmates. They indicated where they fit in relation to the best and worst student in their class on reading, math, getting along with others, paying attention in class, following directions, and verbally expressing themselves in class. The results found that the learning disabled rated themselves as lower in class position than the nondisabled children on reading, paying attention and ability to follow directions. They also rated themselves as doing more poorly in general than classmates and did not express optimism that their status would improve in the near future.

The studies described so far had used parochial school students classified as learning disabled by using federal guidelines. By using children who had not been formally labeled learning disabled by the schools, group differences could not be attributed to the labeling process or to special education programs. Nonetheless, by using parochial school students the generalizability of the results were in question.

In the next study (Pearl, in press) the samples of children were drawn from public schools which had special education services. Subjects were school labeled third and fourth grade learning disabled children who were receiving special education services in resource rooms from a learning disability teacher. A questionnaire was constructed (adapted from Nicholls, 1979) which tested the same factors as the structured interview. Children indicate which of two attributions in a pair was the more responsible for success and failure at reading, putting together a puzzle and getting along with other children. Scores are based on the number of times on each question each of the four attributions of ability, effort, task ease and luck were selected as the more important.

The results found that the labeled learning disabled children made virtually the same responses as the parochial school samples. The learning disabled did not believe, to the same degree as the nondisabled, that failures in reading and on puzzles were due to a lack of effort. The learning disabled were more likely than the nondisabled to believe that good luck was a factor in success and less likely to believe that bad luck was a factor in their failures. Learning disabled children in the third grade thought that success on puzzles was due less to ability than nondisabled children; learning disabled in the fourth grade thought that success in reading was due less to ability than the nondisabled children. Again, the learning disabled failed to believe that success reflects something positive about themselves and that failures can be overcome by trying harder. The only notable differences between the two samples of learning disabled children was that the school labeled learning disabled did not select lack of effort as a cause of social failures. This suggests that the

labeling process may allow the child to limit negative self evaluations and expectations to performance in achievement related activities.

The generalizability of the results of these attribution studies was further confirmed by a study conducted with college students (Pearl, Bryan and Cordoni, in preparation). A modified version of the questionnaire was administered to freshman learning disabled and nondisabled students participating in Barbara Cordoni's special program for learning disabilities at Southern Illinois University. The results were highly similar. The learning disabled college students selected luck as a more significant determinant of their successes and failures than the nondisabled college students. The nondisabled college students rated ability to be more influential in success than the learning disabled group while the learning disabled students considered lack of ability to be a greater source of influence in their failures. The nondisabled students attributed their failures to a lack of effort to a much greater degree than did the learning disabled students. Thus, even learning disabled students who have done reasonably well academically and were motivated to continue education to college still did not interpret success as reflecting something positive about themselves nor do they interpret failures as a signal that greater effort is needed.

In sum, across radically different learning disabled samples, a common factor is a gloomy shared pessimism among individuals who derive little pleasure from task mastery and perceive difficulty as insurmountable.

ATTRIBUTIONS AND ACHIEVEMENT RELATED BEHAVIORS

We then looked to see how the children's attributions were related to their behavior.

Bowling Game Study (Pearl, Bryan & Herzog) -- The first study was an experiment in which children played a laboratory game programmed for high versus low scores. Several methodological differences distinguish this study from most studies which have examined children's behavioral responses to success and failure. First, a novel task, a laboratory bowling game was used. This permitted assessment of children's attributions on a task in which they had no prior history of success or failure. Second there was no particular strategy required to complete the task. Any strategy the child conjured up was as correct as any other. Third, rather than limiting the experience to a series of successes followed by a series of failures as has typically been done in such experiments, our subjects experienced both success and failure throughout the task. Relative amounts of success to failure distinguished experimental conditions. Finally, feedback about performance was given in the form of game scores rather than by evaluative feedback from an adult.

Subjects were second, third, fifth and sixth grade parochial school children identified as learning disabled and nondisabled using federal guidelines. Children were individually brought to a laboratory trailer parked on school grounds "to see if they were good bowlers on a new game." After each turn on the game the child recorded scores of 5, 10, 15 or 20 on a score card. The were instructed that whenever they saw a red circle around the trial number they were to talk into the tape recorder about why they got the score they

did. The bowling game was programmed for twenty trials. Children in the High Success condition scored a preponderance of 15s and 20s while children in the Low Success condition scored mainly 5s and 10s. In both conditions, children received three scores of 5 and three scores of 20 on the same trials. These were the trials on which they spoke into the tape recorder. After playing the game, the child was interviewed about specific attributions (e.g., "Do you think you got 5s because the game was hard, because you were unlucky, because you didn't try hard enough, or because you're not good at bowling?). Children were asked about how many 5s and 20s they scored, and why; how many other boys/girls would get and how many they would get if they played the same game again.

Children's explanations for their performance were scored according to how much of a strategy analysis was made as were responses to the interview questions. The statement earned two points if it described specific controllable methods for approaching the game; one point if it indicated a more general method; and no points if there was no indication that the child perceived some control over the game. The results indicated that nondisabled children in the Low Success condition made more of a strategy analysis than nondisabled children in the High Success condition. However, learning disabled children in High and Low Success conditions did not differ in their strategy analyses. In addition, the learning disabled in the High Success condition estimated that they had received more 5s than did the nondisabled children, and were significantly less optimistic about increasing their 20s in the future.

When asked whether ability, effort, task difficulty or luck was the reason for their scores of 20, the nondisabled in the High Success condition attributed their success to ability; the learning disabled to effort. In the

Low Success condition, nondisabled children tended to attribute low scores to a lack of effort while the learning disabled children tended to blame bad luck or difficulty of the task.

The results of this study found that nondisabled children's attributions depended on whether they were doing well or poorly on the task. When successful they made no particular attempt to identify what strategies produced their scores. But when success was not readily forthcoming, the nondisabled responded by attempting to analyze what had happened. They developed specific, testable hypotheses about the reasons for their performance. In contrast, the learning disabled were likely to name vague or uncontrollable factors as the causes of their scores regardless of whether the scores were high or low or had occurred in the context of high or low success.

In sum, learning disabled children differed from nondisabled children in several ways. Unlike the nondisabled, the learning disabled children failed to develop strategies in response to low scores, they overestimated their low scores in the High Success condition, they attributed success to effort rather than to ability, and they failed to attribute low success to lack of effort. Their behavior certainly was similar to that of the "learned helpless" children in other studies (Diener and Dweck, 1980). These findings suggest that low success does not serve as a discriminative stimulus for the learning disabled to focus on the task and generate task appropriate strategies as low success does for the nondisabled. The lack of success therefore communicates a different message to learning disabled and nondisabled students. If a student does not believe that effort, defined as focusing on the task in order to generate alternative responses, is important following failure, and that the future holds

promise for increased success, and if furthermore the student tends to remember failures to a greater extent than successes, there would be no reason to expect the student to alter his/her behavior when confronted with a difficult task. Not only do learning disabled children apparently assume that to do so would be useless, it may be that they avoid ever trying in an attempt to prevent their perceived incompetence from being further demonstrated (Covington and Omelich, 1981).

Pflaum and Pascarella's Attribution X Reading Instruction Interaction Studies -- Given the results of this study there were two reasonable next steps. One would be to try to change learning disabled children's attributions; the second was to match instruction to children's attributions. Pflaum and Pascarella, colleagues also supported by the Chicago Institute, adopted the latter approach. Noting that while the ultimate goal of instruction may be to change children's attributions, they argued it may be more efficacious to match children's attributions to method of instruction.

Pflaum and Pascarella hypothesized that students who tend to adopt an internal locus of control were likely to benefit from instruction which requires the child to take control and responsibility for responses, whereas students who adopt an external locus of control would be more likely to benefit from a program in which the teacher assumes control and responsibility. Hence a reading program to teach children to correct oral reading errors was constructed in two forms.

In the Student Determination of Errors form (SDE), when students made an error while reading aloud, the teacher directed the student to attend to the context of the sentence so that the students could figure out what word might make sense. The teacher would say something like: "Well, Mary, do you think

that word makes sense in that sentence?" Teachers might then ask a series of questions which would allow the student to eliminate the incorrect alternatives. In the second teaching method, the Teacher Determination of Errors (TDE), the teacher would supply the correct response, saying: "No, the correct word is...." in response to oral reading errors.

Teachers were randomly assigned to either the SDE or TDE condition. Small reading groups comprised of poor readers and learning disabled children were then given twenty-four reading lessons in about eighteen hours of instruction, administered over a twelve week period, in which the teacher used either the TDE or the SDE form of instruction. Prior to the initiation of the instruction, children were administered the IAR. Results of a multiple regression analysis of posttreatment reading scores indicated that there was a significant interaction between pretreatment IAR and condition. Children with high internal attribution scores (28 or above) had higher reading scores in SDE than in TDE. For children with low internal attributions scores (22 or below), that is, children with an external locus of control, the reverse was true. External locus of control children had higher reading achievement in the TDE condition than in the SDE condition.

There were no differences between the low normal and learning disabled groups on reading scores. Since the learning disabled tended to have higher external scores, however, as a group the learning disabled tended to benefit more in the TDE than the SDE instruction.

In a second study, an attempt was made to include attribution retraining. The basic notion was to test whether external locus of control children could be weaned from the TDE to the SDE instructional method. A third set of

lessons was written. The first part was from the TDE and the last part was from the SDE packages. The middle eight lessons were transition lessons in which the teacher exhorted the child to try harder to generate the correct word. Again teachers in third, fourth and fifth grade classes were randomly assigned to one of the three conditions and the students included school identified learning disabled and nondisabled children who were in the same reading groups as the learning disabled.

The results replicated the findings of the first study. External types did better in the TDE than the SDE instruction while internal types showed greater reading improvement in the SDE than the TDE instruction. The transition lessons were more effective for the internal than the external types, however. While the aptitude by treatment interaction replicated beautifully, the attempt to use attribution retraining to shift external children so that they would benefit as well as the internal children from the SDE method did not succeed. It thus appears that Pflaum and Pascarella were correct. We can successfully increase reading comprehension scores by matching style of instruction to children's locus of control. However, subscribing to the picture of a national hero as one who has an internal locus of control, we decided to take a different approach.

Cooperative versus Individual Goal Structures -- There is a sizable research literature that indicates that noncompetitive classroom settings would be more likely to allow children to develop adaptive attributions than competitive settings. The data are consistent in finding that children who are reinforced in cooperative group structures rather than competitive structures feel better about themselves and the children with whom they interact and that, by and large, their performance does not suffer. So, rather than focusing on

trying to change the attributions of the individual child, we decided to see if children's attributions and learning could be improved through the manipulation of the reward structure.

In this next study (Bryan, Cosden, Pearl and Ellis, in preparation) learning disabled and nondisabled second through sixth graders were assigned to either a cooperative or an individual reward structure. The individual reward structure rather than the competitive was selected as learning disabled and other handicapped children are provided a great deal of individualized programming. Therefore, it was more relevant to compare their performance under cooperative versus individual rather than competitive structures. Nondisabled classmates were randomly selected to be partners with the learning disabled and nondisabled subjects.

The pairs were brought to a laboratory trailer parked on school grounds. They were told they were going to read some interesting stories and would be tested on the material afterwards. In the cooperative reward structure they were told that their grades depended on how well they both did, and that they should help each other study the material. In the individual condition they were told their grades depended on how well they did and to study real hard so they would do well. Subjects were pretested on the material they would read and then heard the story read aloud while they followed along.

Preliminary analysis of children's attributions found that the fifth and sixth grade learning disabled children reported spending more effort on the task than did their nondisabled partners. The nondisabled believed that the learning disabled partner's successful performance was more due to luck than was their own performance. Thus the learning disabled perceived themselves as trying

hard, while their partners thought the learning disabled were lucky on the task. Nevertheless, there were no group differences when children were asked if they would like to do the task again with the same partner. Thus, while the nondisabled believed the learning disabled child's success was due to luck, the nondisabled were just as willing to have the learning disabled as the nondisabled as a partner.

DISCUSSION

The results of these studies seem to suggest that the learning disabled are prime candidates for attribution retraining. They do not take personal credit for success and they feel largely responsible for failure. However, it may well be that to a large extent learning disabled children's attributions are realistic assessments of their situation. The learning disabled in mainstreamed settings are surrounded by children who are likely to be doing more difficult work. Since the emphasis in mainstreaming is to provide children with individual educational plans designed to meet their instructional needs, the learning disabled are more likely to be doing tasks at a lower academic level than classmates. On the basis of social comparison, then, the learning disabled could attribute their success to others being nice to them by giving them easier work because in fact that may be the case. If the learning disabled are engaged in the same academic tasks as their classmates, it is very likely that the tasks are more difficult for the learning disabled. For the learning disabled to perceive that they are working hard, harder than their classmates, is again a realistic observation. Attribution retraining, as currently described in the literature, would seem likely to be ineffectual or even devastating for the child. Its aim would be to shift the child from realistic to unrealistic perceptions of

his situation. Attribution retraining might place the child in a situation in which an adult exhorts him to try harder when the child already is trying as hard as he can or doesn't know how to translate effort into specific, meaningful strategies. The adult would then reinforce the child's perception that the task cannot be accomplished by his trying harder.

Another problem which must be faced if one contemplates attribution retraining with the learning disabled, has to do with others' attributions about the learning disabled. Mothers and peers, like the learning disabled, attribute learning disabled children's success to luck. Mothers also attribute their learning disabled children's failure to lack of ability more than do other mothers; mothers of nondisabled children are more likely to attribute their child's failure to bad luck than do mothers of learning disabled children (Pearl and Bryan, 1982). Even if we could figure out how to alter the learning disabled child's attributions, he is likely to be confronted with adults and classmates who do not attribute his success to his personal qualities. Once again we are confronted with whether others' attributions about the learning disabled are not also based on realistic interpretations of situations. For instance, in the cooperative group study, the nondisabled paired with the learning disabled had partners who in actuality did not learn as much as the nondisabled partners. Yet, each child was told that their partner was successful on the task. It seems quite reasonable that the nondisabled should consider luck to have been a significant factor in causing the learning disabled to be successful after having viewed the learning disabled experience difficulty on the task.

We believe that attribution retraining for the learning disabled must focus on teaching the child specific task strategies accompanied by adaptive

interpretations of outcomes. While it may be that Pflaum and Pascarella are correct, that matching instructional strategy to child locus of control is the most effective way to increase reading skills, we believe that we fall short of our goals as educators unless we strive to develop an educational technology which produces a child who is independent in learning, has feelings of self efficacy, and can elicit respect from others.

While there are important problems which must be dealt with, cooperative goal structures seem to be a promising organizational means for dealing with learning disabled children's lack of task strategies, their maladaptive attributions about the causes of their success and failure, and others' discounting of their abilities. By using cooperative goal structures, the learning disabled will have the opportunity to observe how nondisabled children develop task strategies. Through a modeling process the cooperative goal structures make more visible to the disabled the process other children engage in when problem solving. This type of reasoning is not obvious or salient in individualized structures. Second, the child may also model the nondisabled children's interpretations of outcomes. By modeling, the learning disabled might come to take credit for the group and the individual success. It is already well established that members of cooperative groups have high regard for one another so the social isolation of the learning disabled should be reduced while group success should elicit positive feelings toward the learning disabled.

The dangers are the following. We must be concerned with not only group outcomes, but with each individual's involvement in learning. Our studies of learning disabled children in interactions with nondisabled children indicate

that they play cooperative but unassertive roles (Bryan, Donahue and Pearl, 1981; Bryan, Donahue, Pearl and Sturm, 1981) and even that they indicate that they would go along with actions of friends they believed were wrong (Bryan, Werner and Pearl, Note 1). These findings indicate that the learning disabled may be marginal in their participation. They may be cooperative, yet allow others to carry the "intellectual ball." Conversely, the nondisabled, as we found in our study, may learn less by virtue of having to spend more time trying to elicit a good performance from learning disabled partners. While this may be a worthwhile sacrifice, it is an issue that should be carefully considered. Another problem has to do with the public nature of performance in cooperative groups. If one member is having difficulty, it is far more obvious to the group than when children work individually. This places the handicapped child at risk for public discovery and embarrassment. If the group is dependent on each child contributing to the final product, it is critical that the handicapped child have something to contribute. If the group rewards are used, the child's inadequacy might be not only public but highly salient, others may suffer for it.

These issues are often clouded in the studies which have compared cooperative versus individual goal structures on children's performance. Until we sort out these various factors we must proceed with some caution and care as to the outcomes of our interventions.

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